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10/517,657

12/13/2004

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EXAMINER

STAFIRA, MICHAEL PATRICK

ART UNIT

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2886

MAIL DATE

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03/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 10/517,657 | Applicant(s) DI FABRIZIO ET AL. | |
| | Examiner Michael P. Stafira | Art Unit 2886 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) 10-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,14 and 15 is/are rejected.
- 7) ☒ Claim(s) 3 and 5-9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Election/Restrictions

2. Claims 10-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 4/16/2007.

3. Newly submitted amended claims 10-13 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The proposed amendment to independent claim 10 only adds a preamble to the claim which does not disclose any structure such as a detection system in the body of the claim. Therefore, claims 10-13 only disclose the structure of a probe and would still remain in Group II as disclosed in Examiner Restriction.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 10-13 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. ('067) in view of Boppart et al. ('413).

Claim 1

Jensen et al. ('067) substantially teaches the claimed invention except that it does not show a light-emitting means for generating a collimated light beam. Boppart et al. ('413) shows that it is known to provide a light-emitting means that generates a collimated light beam (Fig. 2, Ref. 10, 26) for an optical scanning probe. It would have been obvious to combine the device of Jensen et al. ('067) with the collimated light beam of Boppart et al. ('413) for the purpose of providing a light beam that has little loss of the optical signal, therefore increasing the sensitivity of the measurement.

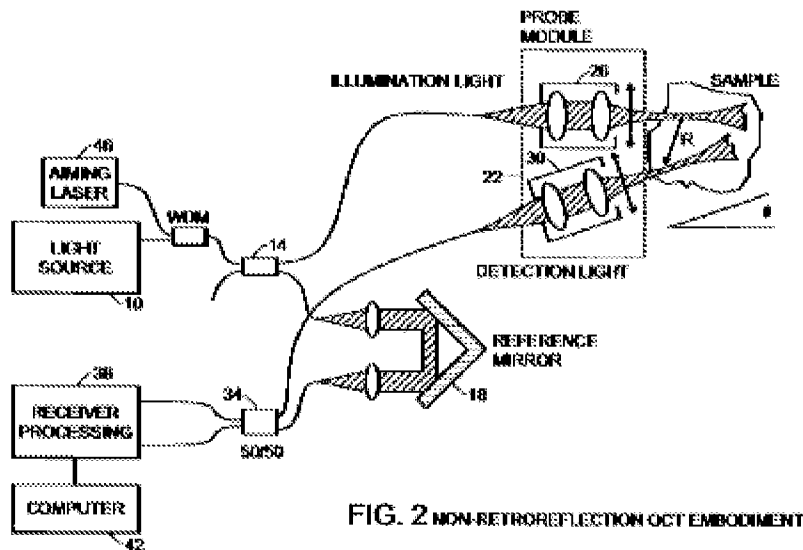
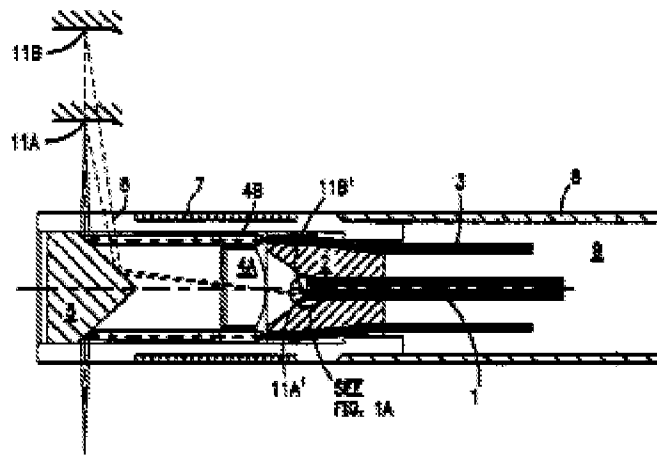


FIG. 2 NON-RETROREFLECTION OCT EMBODIMENT

Jensen et al. ('067) discloses an elongate probe element (Fig. 1, Ref. 8) suitable for being introduced into the duct and for guiding the collimated beam along a predetermined propagation direction (Col. 3, lines 52-56), reflector means (Fig. 1, Ref. 5) supported by the probe element (Fig. 1, Ref. 8) and suitable for deflecting the light beam so as to illuminate the internal wall of the duct (Col. 3, lines 52-56), and for deflecting the reflected or diffused light coming from an illuminated point (Fig. 1, Ref. 11A, 11B) of the internal wall so as to guide it along the probe element (Fig. 1, Ref. 8), and detection means (Col. 7, lines 1-10) suitable for receiving an image of the illuminated point (Fig. 1, Ref. 11A, 11B), which image is correlated with the optical distance of the point from the detection means (Col. 7, lines 1-10), and for providing a corresponding electrical signal, characterized in that the reflector means comprise a micro-mirror element (Fig. 1, Ref. 5) articulated to a distal end of the probe element (See Fig. 2), the micro-mirror element (Fig. 1, Ref. 5) being orientable so as to deflect the light beam in selectively different directions (Col. 9, lines 1-10).

**FIG. 1**

Jensen et al. ('067) substantially teaches the claimed invention except that it does not show a micro-mirror that is rotatable. Boppart et al. ('413) shows that it is known to provide an optical probe with a rotating micro-mirror at the end of the probe (Fig. 8b, Ref. Rotating Cable/prism) for an optical probe for scanning. It would have been obvious to combine the device of Jensen et al. ('067) with the rotating optical element of Boppart et al. ('413) for the purpose of providing a scanning ability to the optical probe, therefore increasing the area that the probe can view without moving.

6. Claim 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. ('067) in view of Boppart et al. ('413) as applied to claim 1 above, and further in view of Deichmann et al. (2003/0164952).

Claim 2

Jensen et al. ('067) in view of Boppart et al. ('413) substantially teaches the claimed invention except that it does not show a drive unit for moving the probe and unit. Deichmann et al. (2003/0164952) shows that it is known to provide a drive unit for moving the probe unit

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(Para. 0062) for an optical scanning probe. It would have been obvious to combine the device of Jensen et al. ('067) in view of Boppart et al. ('413) with the probe drive unit of Deichmann et al. (2003/0164952) for the purpose of providing the probe unit the ability to move into restricted areas, therefore providing reliable images of confined areas.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. ('067) in view of Boppart et al. ('413).

Claim 4

Jensen et al. ('067) discloses a probe arm element (Fig. 1, Ref. 8) suitable for being introduced into the duct and supporting at its distal end a micro-mirror element (Fig. 1, Ref. 5) which can deflect a light beam directed along the probe element (Fig. 1, Ref. 8) so as to illuminate the internal wall of the duct, and which can deflect the reflected or diffused light coming from an illuminated point of the internal wall so as to guide it once more along the probe element (Fig. 1, Ref. 8) to enable it to be received by detection means (Col. 7, lines 1-10) of the apparatus, characterized in that the micro-mirror (Fig. 1, Ref. 5) element is articulated to the probe arm element (Fig. 1, Ref. 8) so as to be orientable in a radial plane relative to the probe arm element (Fig. 1, Ref. 8)(Col. 9, lines 1-10).

Jensen et al. ('067) substantially teaches the claimed invention except that it does not show generating a collimated light beam. Boppart et al. ('413) shows that it is known to provide a collimated light beam (Fig. 2, Ref. 10, 26) for an optical scanning probe. It would have been obvious to combine the device of Jensen et al. ('067) with the collimated light beam of Boppart et al. ('413) for the purpose of providing a light beam that has little loss of the optical signal,

therefore increasing the sensitivity of the measurement.

Jensen et al. ('067) substantially teaches the claimed invention except that it does not show a micro-mirror that is rotatable. Boppart et al. ('413) shows that it is known to provide an optical probe with a rotating micro-mirror at the end of the probe (Fig. 8b, Ref. Rotating Cable/prism) for an optical probe for scanning. It would have been obvious to combine the device of Jensen et al. ('067) with the rotating optical element of Boppart et al. ('413) for the purpose of providing a scanning ability to the optical probe, therefore increasing the area that the probe can view without moving.

Claim 14

Jensen et al. ('067) discloses determining the internal impression of the auditory canal (Col. 3-4, lines 52-15).

Claim 15

Jensen et al. ('067) further discloses determination of an internal impression of the auditory canal by means of an apparatus in a manner such as to produce a three-dimensional computer representation, and machine production of a piece of hearing prosthesis, under the control of a computer using the data relating to the three-dimensional representation (Col. 1, lines 8-22).

Allowable Subject Matter

8. Claims 3, 5-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 12/17/2007 have been fully considered but they are not persuasive.

Applicant takes the position that after amending independent claims 1 and 4, that the combination of Jensen in combination with Boppart fail to disclose the micro-mirror element is rotatable.

The examiner takes the position that the combination of Boppart with Jensen clear shows in figure 8b that the optical reflecting element can be rotated therefore reading on applicant's limitation. It is the position of the examiner that the rejection stands as presented in the above paragraphs.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur Chowdhury can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael P. Stafira/
Primary Examiner
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